City and County of Denver

Investment Portfolio Performance Report

Quarter Ended 12/31/2019

Prepared By:

Cash, Risk & Capital Funding Division

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Report Content:

I. Economic Commentary

Capital markets reached historic highs near the end of the fourth quarter 2019. Market participants were encouraged as the US-China trade dispute showed modest steps towards a phase one deal. The U.S. Treasury yield curve steepened, as yields declined on the short end and increased on the longer end. The 2-year Treasury yield decreased by 6 basis points and the 10-year treasury yield increased by 26 basis points by quarter end. The spread between the 2-year and the 10-year was 36 basis points as the yield curve steepened. The short end of the yield curve saw the largest movement in rates. The 1-month treasury declined 43 basis points causing the spread between the 1-month and 10-year treasury bill to increase to 49 basis points.

The Federal Open Market Committee (FOMC) cut rates once in the third quarter to a range of 1.50% to 1.75%. The Federal Reserve messaged that the three rate cuts in 2019 were enough given current and foreseeable economic conditions. Rates are expected to remain unchanged until the end of 2020 as the Fed does not want to be seen as unduly influencing the U.S. Presidential election. According to the Fed's dot plot, 4 out of 17 policymakers are anticipating a rate hike before the end of 2020. Most market participants expect rates to be unchanged in 2020 as the Federal Reserve's monetary policy stance is expected to remain accommodative.

Payrolls rose in the fourth quarter with December figures rising by 145,000, but still below expectations. The average payroll increase was 184,000 for the quarter. Wages were flat with only a slight uptick to 0.1% which missed expectations of a 0.3% increase. On a year-over-year basis, wages increased 2.9% in December down from 3.1% in November. The monthly unemployment rate remained unchanged from the previous quarter at 3.5%. The U-6, a broader measure of unemployment, dropped to 6.7% in December from 6.9% in November.

Manufacturing data indicated contraction with the ISM Index falling to a value of 47.2 by quarter end. The reading was below expectations and suggests the manufacturing sector remains in contraction. The housing sector saw home prices increase 2.2% year over year in October. Housing starts were stronger than expected with single-family starts up 2.4% in November and with multi-family starts surging up to 4.9% in the same month. The trend suggests that low mortgage rates and a strong labor market continue to drive housing activity.

Exposure to credit securities in the portfolios increased during the third quarter. Credit spreads tightened while treasury yields declined. Asset class diversification continued to facilitate modest growth in incremental earnings for the portfolios. The City's investment portfolio modestly underperformed the stated benchmark indices by 0.01% year to date on a total return basis.

Portfolios	Market Value
Managed Portfolios	$5,624,361,461
Special Purpose Portfolios	$53,345,491
Finance Administrated	**$5,677,706,952**

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II. Consolidated Portfolio $5,056,790,753

Total Return	1-Month	3-Month	YTD
Total Return	0.09%	0.33%	4.00%
Blended Benchmark (TR)	0.14%	0.37%	4.00%
Excess Return	**-0.05%**	**-0.04%**	**0.00%**

Current Return	1-Month	3-Month	YTD
Current Return	2.39%	2.38%	2.40%
Blended Benchmark (CR)	1.81%	1.79%	2.15%
Excess Return	**0.58%**	**0.59%**	**0.25%**

Year-to-Date earnings on a current return basis for the Consolidated Portfolio were $129,575,381.

The 1-5 Year Strategy Blended Benchmark consists of 67.50% Intercontinental Exchange (ICE) BofAML 1-5 Year US Treasury & Agency Index, 17.50 % ICE BofAML 1-5 Year AAA-A US Corporate Index, 7.50% ICE BofAML AAA US Asset Backed Securities, 5.00% ICE BofAML 0-3 Year US Agency CMOs and 2.50% ICE BofAML 3-5 Year US Mortgage Backed Securities Index. Prior to 1/1/2016 the benchmark was the BofA Merrill Lynch 1-5 Year US Treasury & Agency Index.

The 1-10 Year Strategy Blended Benchmark consists of 65.00% ICE BofAML 1-10 Year US Treasury & Agency Index, 15.00 % ICE BofAML 1-5 Year AAA-A US Corporate Index, 5.00% ICE BofAML AAA US Asset Backed Securities, 7.50% ICE BofAML 0-10 Year US Agency CMOs and 7.50% ICE BofAML 0-10 Year US Mortgage Backed Securities Index. Prior to 1/1/2016 the benchmark was the BofA Merrill Lynch 1-10 Year US Treasury & Agency Index.

Factors Affecting Performance & Management Strategies

- Chandler's proprietary Horizon Model that the City uses with the intent to meet or outperform the benchmarks over time (the Intercontinental Exchange (ICE) BofAML Treasury/Agency 1-5 year index and the ICE BofAML Treasury/Agency 1-10 year index) are revised on a regular basis, reflecting the volatility of both bond market interest rates and interest rate curve movements. The City evaluates the portfolios each time a new Horizon Model is received. The key variables subject to potential revision as a result of Horizon Model changes include duration, composition and structure.
- The portfolios have been allocated towards a modestly shorter benchmark duration within the 1-5 and 1-10 year strategies. We believe investment in shorter duration securities into the strategies is most prudent during times of elevated interest rate volatility. Safety of principal is paramount in investing the City's funds.
- Corporate Bonds, Collateralized Mortgage Obligations, Mortgage-Backed Securities, and Asset-Backed Securities are new asset classes approved by voters for implementation in 2014 by an amendment to the City Charter. Purchases of the new asset classes continued to increase as a percentage of total composition during the fourth quarter of 2019.
- The Consolidated Portfolio benchmarking indices are comprised of five ICE BofAML indices, creating a static weighted blended benchmark. A total of two blended benchmarks are used for the 1-5 year and 1-10 year strategies to closely reflect the portfolio duration and asset allocation constraints.

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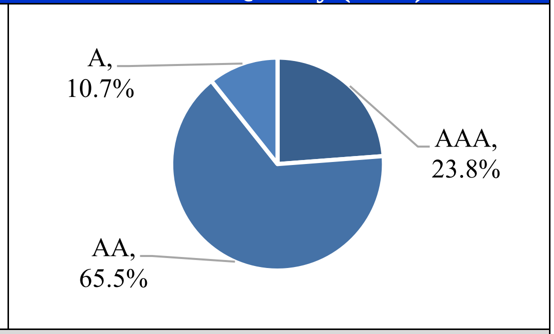
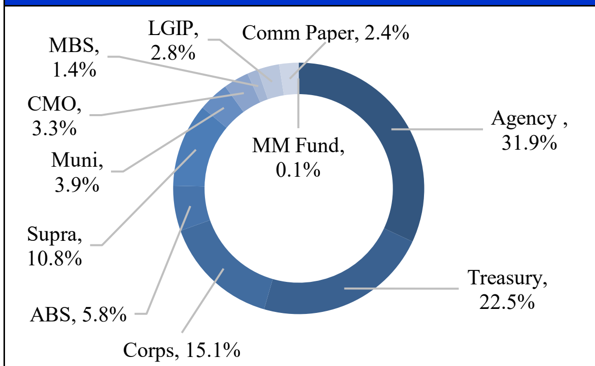
Consolidated Portfolio Composition

Characteristics	
Average Duration	2.54 yrs
Average Coupon	2.35%
Average Yield to Maturity	1.79%
Average Rating (S&P)	AA+
Average Life	2.70 yrs

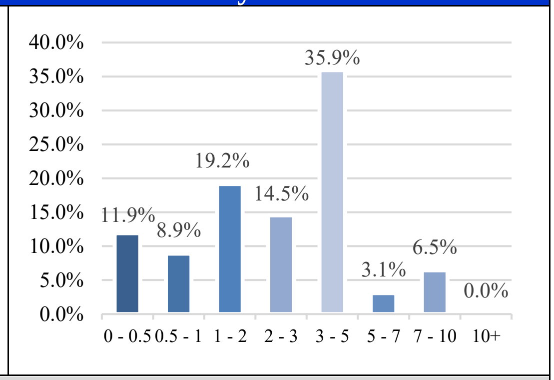
Credit Quality (S&P)



Asset Allocation



Maturity Distribution



- The Consolidated Portfolio's net assets decreased by approximately $418 million during the fourth quarter of 2019. On December 31st, 2019, net assets were $5.1 billion, compared to $5.5 billion on September 30th, 2019, as expenditures exceeded inflows. The decrease in net assets was primarily due to cyclical outflows, consistent with historical fourth quarter activity. A large portion of outflows for the City occur during the second half of the year.

- The weighted average maturity (WAM), an aggregate portfolio measure of total years remaining until the maturity of all underlying holdings, ended higher during the fourth quarter. The WAM increased at end of the quarter, due to reduced exposure to short term assets as funds from the ladder structure implemented in 2018 for the influx of bond proceeds were fully invested into the portfolio strategies. While modestly short benchmark duration, rebalancing and securities purchase activity in the intermediate strategies during the fourth quarter extended duration more closely with the model and benchmark. The model continues to remain short of benchmark duration.

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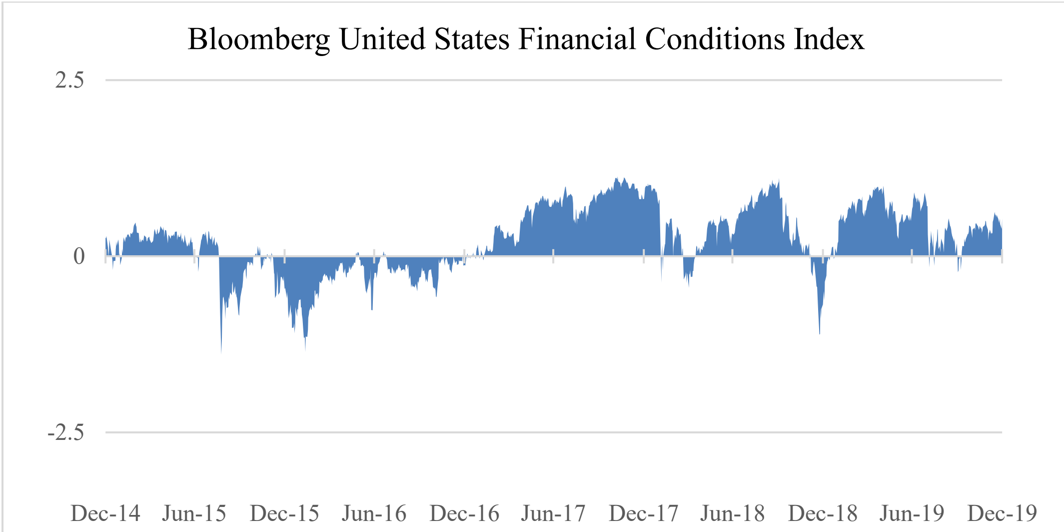
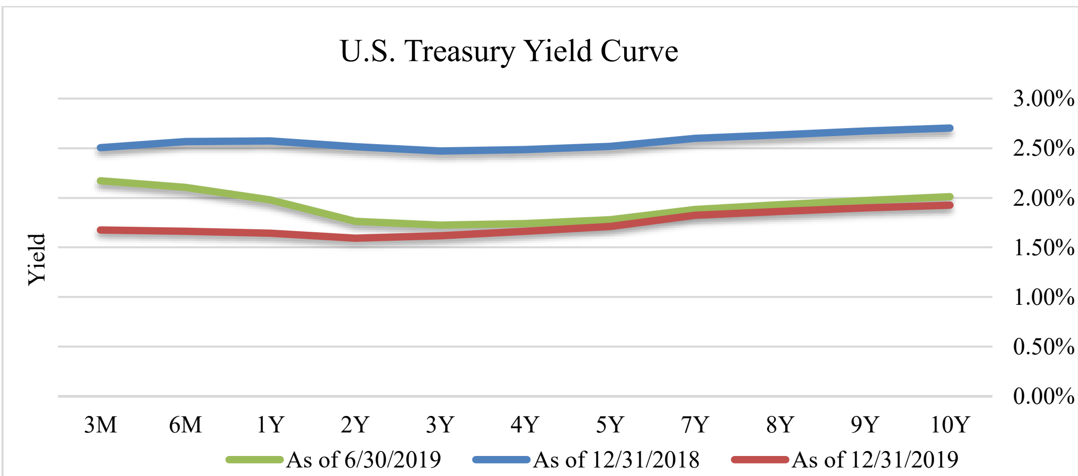
Portfolio Management Environment





- The Federal Reserve lowered the Fed funds rate to a range of 1.50%-1.75% during the fourth quarter of 2019. The Fed is projecting an average of 1.57% fed funds rate thru the 1st quarter of 2020, which implies that the Fed will keep rates the same through the beginning of 2020.
- The one-month LIBOR rate was 1.76% as of December 31st, 2019; a decrease of 26 basis points from September 30th, 2019.
- As of December 31st, 2019, the yield of the two-year Treasury index was 1.57%, and the five-year Treasury index was yielding 1.69%. A year earlier, as of December 31st, 2018, the yield of the two-year Treasury index was 2.49%, and the five-year Treasury index was yielding 2.73%.
- The median of economists' forecast is for a 1.61% two-year Treasury yield at the end of the first quarter 2020.
- The shape of the yield curve normalized in the fourth quarter losing its inversion seen in the quarters earlier this year. The two-year, three-year, and five-year were at 1.57%, 1.61%, and 1.69%, respectively.

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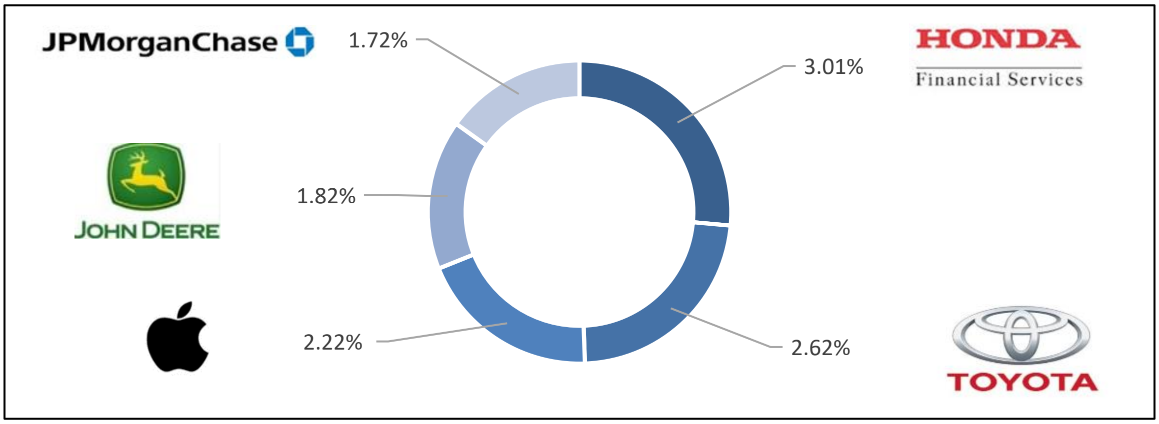
Report Content:

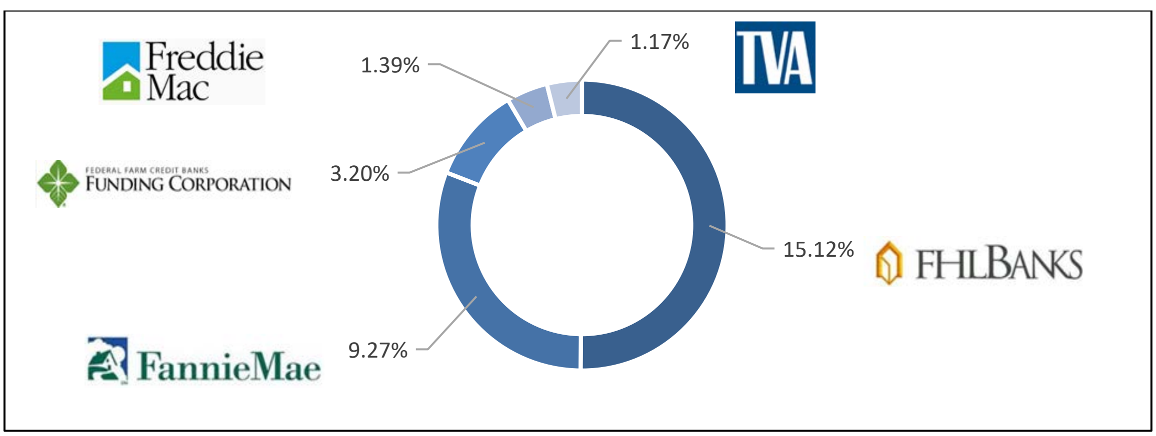
Consolidated Top Holdings

Top 5 Credit Holdings			
Issuer	**Market Value**	**% of Portfolio**	**Industry**
American Honda Finance	152,276,430	3.01%	Automobiles
Toyota Motor Credit Corp.	132,329,070	2.62%	Automobiles
Apple, Inc.	112,107,547	2.22%	Technology
Deere & Co.	90,059,276	1.82%	Machinery
JP Morgan Chase & Co	86,877,452	1.72%	Financials
Total	**573,649,775**	**11.39%**	

*Credit holdings include commercial paper, asset-backed securities, and corporate bonds.



Top 5 Agency Holdings		
Issuer	**Market Value**	**% of Portfolio**
FHLB	764,473,149	15.12%
FNMA	468,955,153	9.27%
FFCB	162,009,795	3.20%
FHLMC	70,399,859	1.39%
TVA	58,941,256	1.17%
	1,524,779,212	**30.15%**



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III. Airport Reserve Portfolio $527,131,216

Total Return	1-Month	3-Month	YTD
Total Return	-0.01%	0.19%	5.28%
Blended Benchmark (TR)	0.06%	0.20%	5.37%
Excess Return	**-0.07%**	**-0.01%**	**-0.09%**

Current Return	1-Month	3-Month	YTD
Current Return	2.81%	2.69%	2.61%
Blended Benchmark (CR)	1.88%	1.84 %	2.19%
Excess Return	**0.93%**	**0.85%**	**0.42%**

Year-to-Date earnings on a current return basis for the Reserve Portfolio were $14,781,047.

The 1-5 Year Strategy Blended Benchmark consists of 67.50% ICE BofAML 1-5 Year US Treasury & Agency Index, 17.50 % ICE BofAML 1-5 Year AAA-A US Corporate Index, 7.50% ICE BofAML AAA US Asset Backed Securities, 5.00% ICE BofAML 0-3 Year US Agency CMOs and 2.50% ICE BofAML 3-5 Year US Mortgage Backed Securities Index. Prior to 1/1/2016 the benchmark was the BofA Merrill Lynch 1-5 Year US Treasury & Agency Index.

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- The Airport Bond Reserve portfolio has a maximum maturity constraint of 10 years. On an ongoing basis, liquidity is generated from income received from the portfolio holdings, as well as from periodic bond calls of Agency securities. All income received during the year is transferred out of this portfolio into the Airport Operating funds contained in the Consolidated Portfolio (subject to ongoing adjustments to the required portfolio balance stated in the bond indenture).

- The Airport Reserve Portfolio benchmarking indices are comprised of five ICE BofAML indices, creating a static weighted blended benchmark. A total of one blended benchmark is utilized for the 1-10 year strategy to closely reflect the portfolio duration and asset allocation constraints.

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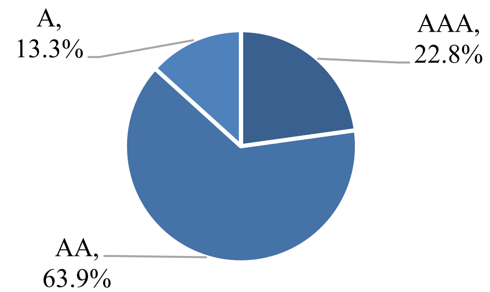
Report Content:

Airport Reserve Portfolio Composition

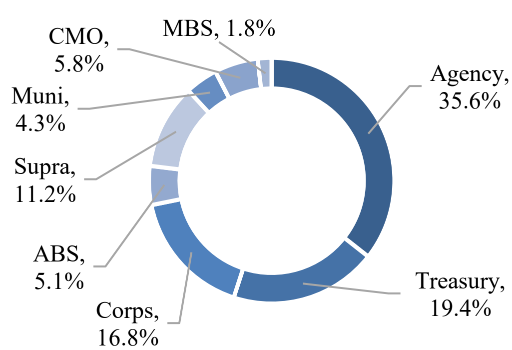
Characteristics

Average Duration	3.41 yrs
Average Coupon	2.66%
Average Yield to Maturity	1.82%
Average Rating (S&P)	AA+
Average Life	3.69 yrs

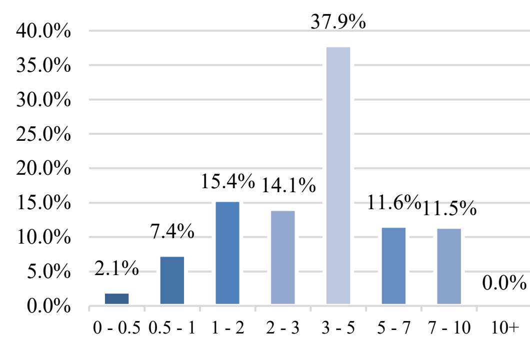
Credit Quality (S&P)



Asset Allocation



Maturity Distribution



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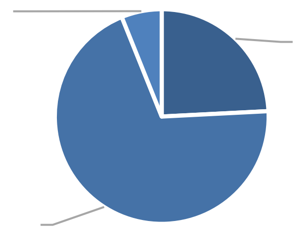
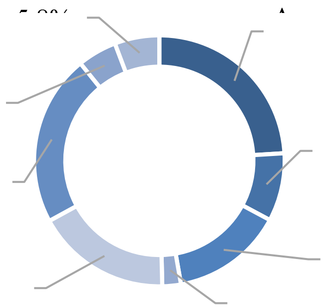
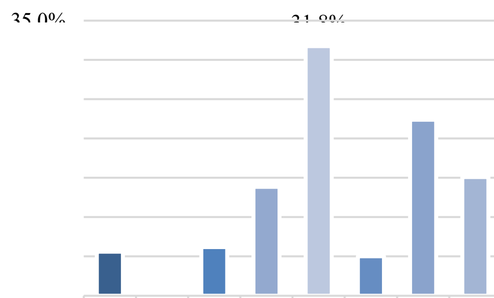
IV. Workers Compensation Portfolio Composition $40,439,492

Average Duration 4.22 yrs







- WC liabilities have a much longer term expected average duration than most other funds managed by the City. For this reason, management has determined that it is prudent to extend the duration of the invested assets associated with these obligations.
- A combination of cash and securities were transferred from the Consolidated Portfolio to the newly established WC portfolio in August 2009. An allocation to cash equivalents appropriate to fund the liquidity needs of the unit was set aside (and is monitored and adjusted monthly), and the balance of the funds were invested in treasury, corporate, agency, municipal, and structured fixed income securities. The annualized current return for the fourth quarter of 2019 was 2.88%.
- Year-to-Date earnings on a current return basis for the Worker's Compensation were $1,244,868.

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V. Special Purpose Portfolios — $53,345,491

In addition to the actively managed investments, the Cash, Risk & Capital Funding Division manage three additional portfolios. The FAA (Federal Aviation Administration) Escrow Defeasance portfolio was established to economically defease outstanding airport bonds. The Denver Cableland Trust portfolio was established to fund the annual maintenance expenses for Cableland, a facility donated to the City. These portfolios are authorized by the Investment Policy to contain longer term securities and higher per issuer constraints within the Consolidated and Reserve portfolios. The majority of the investments in these portfolios were purchased in market environments that featured much higher interest rates than those currently available. The investment income and principal of the three portfolios are pledged for specific purposes.

	Market Value	2019 YTD Current Return	2019 YTD Earnings
FAA Escrow Account	$49,232,089	6.56%	$2,593,135
Denver Cableland Trust	$4,113,402	3.44%	$133,098

Escrows

Cash, Risk & Capital Funding Division also manages certain investments held in escrow accounts at external financial institutions on behalf of Denver International Airport (primarily representing equipment leases). As of December 31st, 2019, there was an outstanding balance of $0.

Investment Policy

The City operates under a written Investment Policy, a copy of which can be obtained on the City's website (www.denvergov.org) or by contacting the Cash, Risk & Capital Funding Division at 720-913-3091.

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Director of Cash & Investments

Gregory T. King
Portfolio Administrator

CHANDLER
ASSET MANAGEMENT

STATEMENT OF REVIEW OF PORTFOLIO PERFORMANCE

Chandler Asset Management, a Registered Investment Advisor with the Securities and Exchange Commission and noticed filed in the State of Colorado, as Independent Consultant to the City and County of Denver, periodically reviews the City's Investment portfolio and represents the following:

1. The investments, as of December 31, 2019, are authorized by the Denver City Charter and are in compliance with the City's Investment Policy;

2. Upon review of the City's Investment Portfolio Performance Report, and relying on the independent market pricing provided by Interactive Data Corporation, the City's securities appear to be priced accurately. Chandler Asset Management has performed no independent verification of the securities pricing provided herein; and

3. Investment performance as reported in the City's attached Investment Portfolio Performance Report, for the period ending December 31, 2019, appears to be accurately reflected.

Signed this 27th day of January 2020

Nicole Dragoo
COO, Chief Compliance Officer

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